REMARKS

Claims 1-48 are pending in the application and stand rejected. Claims 1, 18, and 35 have been amended and new claims 49-51 have been added. Applicants respectfully request reconsideration of the rejections based on the above amendments and following remarks.

Specification

The specification has been updated to reflect the current status of the parent application.

Claim Rejections - 35 U.S.C. § 101

Claims 1-3, 5, 8-11, 14, 18-20, 22, 25-28, 31, 42 and 46 stand rejected as being directed to non-statutory subject matter for the reasons set forth on page 2 of the Office Action.

Claim 1 has been amended to recite an "automated method" to make clear that the claims are not directed to an "abstract idea". Moreover, with regard to claim 18, Applicants traverse the rejection because there is simply no basis for contending that a *program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform* the claimed method steps, is anything close to an "abstract idea".

It is respectfully submitted that Claims 1 and 18 (and all claims that depend there from) are directed to statutory subject matter and comply with the requirements of 35 U.S.C. § 101. Accordingly, withdrawal of the rejection is requested.

Claim Rejections - 35 U.S.C. § 112

Claim 1-45 stand rejected under 35 U.S.C. § 112, second paragraph, for the reasons set forth on page 3 of the Office Action. Although Applicants disagree with the rejection (i.e., the claims clearly do not recite, nor imply, "may not"), the term "may" has been removed from the claims. Applicants believe claims 1, 18 and 35 (and all claims that depend there from) comply

with the requirements of 35 U.S.C. § 112, second paragraph.

Claims 43, 44, 47 and 48 stand rejected 35 U.S.C. § 112, second paragraph, for the reasons set forth on pages 3-4 of the Office Action. Applicants respectfully traverse the rejection. There appears to be no basis for Examiner's contention that such claims are in conflict. Indeed, claims 43 and 44 depend directly to claim 42, which depends from claim 1. As such, the subject matter of claims 43 and 44 are not claimed together. Moreover, claims 47 and 48 depend directly to claim 46, which depends from claim 18. As such, the subject matter of claims 47 and 48 are not claimed together. Further, none of the subject matter of any of claims 43, 44, 47 and 48 is claimed together.

Accordingly, withdrawal of all rejections under 35 U.S.C. § 112, second paragraph, is requested.

Obviousness-type Double Patenting

Claims 1-48 stand rejected based on the judicially created doctrine of double patenting, for the reasons set forth on pages 4-5 of the Office Action. Without addressing the merits of such rejection, it is respectfully submitted that a terminal disclaimer is not necessary and merely redundant. Indeed, the parent to which the current continuation application claims priority is an issued patent. If the current application issues as a patent, the term of such patent will be essentially based on the filing date of the parent.

In any event, if Examiner believes that a terminal disclaimer is still required, Applicants may file a terminal disclaimer in due course depending on the scope of the allowed claims, if any. In this regard, Applicants request that the double patenting rejection be held in abeyance pending the disposition of this application.

Claim Rejections - 35 U.S.C. § 102

(i) Cytron

Claims 1-8, 10, 14-25, 27 and 31-38 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Cytron, for the reasons set forth on pages 5-8 of the Office Action. It is respectfully submitted that at the very minimum, independent claims 1, 18 and 35 are patentable and non-obvious over Cytron, in that Cytron does not disclose or suggest *analyzing program code to determine if there is at least one statement which can affect a desirability of performing at least one cache transaction, if the at least one statement is executed; determining a probability that the at least one statement will execute; determining the desirability of performing the at least one cache transaction based on the probability that the at least one statement will execute*, as essentially claimed.

Indeed, Cytron is directed to a compiler-directed cache coherence method for maintaining *cache coherence* in a multiprocessor system wherein each processor has a cache associated therewith and wherein the processors read contents of a shared memory location. In other words, Cytron is concerned with maintaining consistency of cached values in the various caches, which are read by an application. Although Cytron arguably discloses analyzing program code, there is nothing in Cytron that discloses analyzing the code to determine if there is a statement that can affect a desirability of performing a cache transaction, *if the statement is executed*, and then *determining a probability that the statement will execute* and determining the desirability of performing a cache transaction *based on a probability that the statement will execute.*

Indeed, Examiner's reliance on pages 231 and 232, section 2.2, as disclosing "determining a desirability" is misplaced. In contrast, the cited section 2.2 discloses a method of

posting values to a global memory for the purpose of preventing state values from being referenced from the global memory. This has *no* relation whatsoever to *determining the desirability of performing a cache transaction based on a probability that a statement will execute*, as claimed.

It is respectfully submitted that Examiner's reasoning that Cytron discloses determining desirability "because the read variable X in processor j will execute, its probability of executing is one", is flawed. Indeed, in the "posting" method (equation (1)) there is no need to "determine desirability" of performing a cache transaction because is presumed that the statement will always execute to update the global memory.

Thus, for at least all of the above reasons, claims 1, 18 and 35 are patentably distinct and patentable over Cytron. In addition, dependent claims 2-8, 10, 14-17, 19-25, 27, 31-34 and 36-48 are patentably distinct and patentable over Cytron at least for the reasons given above for their respective base claims.

(ii) Dubey

Claims 1, 2, 4-6, 8, 18, 19, 21, 23, 25, 35, 36, 38-41 and 45 stand rejected under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 5,774,685 to Dubey, for the reasons set forth on pages 8-9 of the Office Action. It is respectfully submitted that the Examiner's reliance on Dubey is wholly misplaced, and clearly does not anticipate the claimed inventions. Dubey is related to a method for performing a compile-time analysis of a program, in which an instruction "STOUCH" enables prefetching data and storing the prefetched data in a cache based on compile-time speculations associated with conditional branches. In short, Dubey discloses a scheme to prefetch data or instructions and place them into a cache to prevent penalties

associated with cache misses during program execution.

Examiner relies on Dubey at Col. 3, line 58- Col. 4, line 4 as disclosing the claimed "analyzing" process, but such reliance is respectfully misplaced. Dubey discloses in the cited section a "prefetching scheme base on compile-time analysis to determine specification locations within a program where instructions or data cache misses are likely to be encountered at run-time". In other words, Dubey discloses analyzing program code to identify "prefetch points" or points at which data or instructions can be prefetched from main memory, for instance (see, Col. 3, lines 27-38). When the teachings of Dubey and the claimed inventions are construed in proper context, and not in a vacuum, it is clear that Dubey does not disclose analyzing program code to make determinations as to the "desirability" of performing a cache transaction, as contemplated by the claimed inventions.

Accordingly, claims 1, 18 and 35 (and all claims that depend there from) are patentable over Dubey. Therefore, withdrawal of the anticipation rejections is requested.

Claim Rejections - 35 U.S.C. § 103

Claims 9 and 26 stand rejected as being unpatentable over Cytron in view of U.S. Patent No. 6,073,129 to Levine, et al., for the reasons set forth on page 10 of the Office Action. The rejection of claim 9 and 26 is based, in part, on the contention that Cytron discloses the elements of claims 1 and 18 from which claims 9 and 26 respectively depend. However, at the very least, the obviousness rejection is invalid by virtue of Cytron failing to disclose or suggest all elements of base claims 1 and 18. Further, it is unquestionable that Levine fails to cure the deficiencies of Cytron with respect to claims 1 and 18 as discussed above. Accordingly, withdrawal of the obviousness rejections is requested.

Early and favorable consideration of this application is respectfully requested.

Respectfully submitted,

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